

Millcreek Township Sewer Authority

PRESQUE ISLE P.O. BOX 8332
3608 WEST 26th STREET
ERIE, PENNSYLVANIA
16505

Conrad F. L. Jr.

PHONE (814) 833-1111

December 28, 1990

Mr. Joseph Williams
Water Quality Compliance Specialist
Pennsylvania DER
1012 Water Street
Meadville, PA 16335

RECEIVED

DEC 31 1990

ENVIRONMENTAL RESOURCES
Meadville Regional Office

RE: Unreported Sewage Bypasses

Dear Mr. Williams:

You have requested a mechanism for timely notification to the Erie County Health Department of any sewage bypasses, and a report describing an implementation schedule to correct future bypasses.

Regarding notification to the Erie County Health Department, the Supervisor and Assistant Supervisor of Sewer Maintenance for Millcreek Township have been directed to notify me and the Township Supervisors immediately of any future sewage bypasses. The Erie County Health Department will be contacted as soon as notice is received. If such a bypass occurs after 5:00 P.M., the Department's after-hours message service will be notified.

As to the cause of such bypasses and a plan for correction, the following is provided;

1) SHOREHAVEN LIFT STATION

September 1990 bypass - we cannot confirm that a bypass occurred. Enclosed are copies of the flow meter charts from the Shorehaven Station for September 1990. The station contains two (2) 1,000 gpm capacity pumps. As you can see from the charts a peak flow of about 1,050 gpm was recorded the week of September 6th. The flow is within the capacity of these pumps. There is also a high water alarm system at this station which sends a radio signal to the Millcreek Police Department in the event of high water at the station. No such alarm was received in September. In 1986, due to previous overflows at this station, the Sewer Authority installed new level sensing equipment and new pump controls. The Sewer Authority awarded a contract in October 1990 for:

DEP 00 490

App. 701

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- a. Emergency Generator - on-site, natural gas-powered standby emergency generator;
- b. Two new 1,000 gpm capacity pumps;
- c. Overflow Alarm - a radio-transmitted alarm to signal the Millcreek Police Department anytime there is an overflow at the station.

We expect that these modifications will eliminate all foreseeable overflows at this station. However, if overflows are recorded, the Millcreek Township Sewer Authority will make any improvements necessary to eliminate overflows.

3) KEARSARGE LIFT STATION

In 1990, sewage bypasses occurred in the sewers which flow to the Sewer Authority's Kearsarge Lift Station, located at West 51st and Zimmerly Road. These overflows were caused by excessive storm water and ground water entering the sanitary sewers. Since 1982, the Sewer Authority has had an on-going program to reduce infiltration/inflow (I/I) in this system. This has included door-to-door surveys and inspections, smoke and dye testing, televising, grouting, cleaning, pressure testing of sewer pipe joints, and flow metering. Also in 1983, the Sewer Authority awarded a contract for \$1.0 million to increase the pumping capacity at the Kearsarge Station. This capacity is now limited only by the sewer capacity within the City of Erie. In 1987 Millcreek Township dredged approximately 1,000 feet of Beaver Run to more rapidly remove stormwater from this area. Following these actions no bypasses occurred until the storm of Fall 1990.

As a result of the 1990 rain storms, Millcreek approved plans to construct a storm water detention basin to prevent flooding in the Larchmont - Spring Valley - Beaver Drive area. It is hoped that this basin, once installed, will also reduce the instantaneous storm water flows into the sanitary sewers.

Mr. Joseph Williams
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The Millcreek Township Sewer Authority will also continue its flow metering of key manholes in this system and expects to complete it's study by the middle of 1991. This study should identify areas of possible downspout and footer drain connections, and areas of inadequate sewer capacity. Action will be taken to correct these problems.

The primary solution to possible sewer bypasses in this area is increased sewer capacity across the City of Erie. Since 1988 the Millcreek Township Sewer Authority has been working toward providing greater capacity to the Erie Wastewater Treatment Plant. It was hoped that the City's Act 537 Sewer Plan Update would provide the data needed for construction of sewer capacity. In order to expedite the Act 537 planning, the Millcreek Township Sewer Authority has authorized it's Engineer to prepare it's own Sewer System Flow Update. This Report is nearly finished and is to be available to Erie as part of it's Sewer System Study.

It is very difficult to predict when Millcreek will be able to provide the sewer capacity needed for it's system, since the action also depends on work by the City of Erie. We are prepared to pay the cost of sewer improvements needed for additional sewer capacity, and are waiting for completion of the Erie Sewer System study so that construction planning can be started. The Penna DER can facilitate this process by expediting completion of the City of Erie sewer system study.

The above information should demonstrate Millcreek's active role in planning and constructing sewer improvements to serve the sewer needs of a growing community. The Sewer Authority takes pride in it's sewer system and in it's continuous efforts to operate and maintain an excellent facility. We therefore encourage the Penna DER and the City of Erie to expedite the sewer system studies necessary to provide added sewer capacity.

Very truly yours,
MILLCREEK TOWNSHIP SEWER AUTHORITY

Max G. Gill
Max G. Gill, Secretary/Manager
MGG/jka

cc: P. Martin
A. Detisch
J. Jiuliante

App. 703

DEP 00 492

*Hand
File*

MILLCREEK TOWNSHIP SEWER AND WATER AUTHORITIES
3608 WEST 26TH STREET
P O BOX 8158
ERIE PA 16505

FAX: 814 835-6615

PHONE: 814 - 835-6721

DATE: 12-14-99

NO OF PAGES: 1 (INCLUDING COVER SHEET)

Erie County Health Dept.
TO: Doug Ebert C/o Doug Range @ 451-6775
FROM: George W. Riedesel

SUBJECT: Kearsarge Pump Station
Notification of Bypass Event

REPLY REQUIRED: YES NO

Please be advised that on 12-14-99 the bypass at the Kearsarge Pump Station was activated at approximately 2 pm by Garry Snyder the Assistant Operations Superintendent.

It is our understanding that your office will be notifying the appropriate PA DEP personnel.

*Doug Range
spoke with
Wall & Losfield
when he received this*

**IN THE UNITED STATES DISTRICT COURT OF PENNSYLVANIA
WESTERN DISTRICT, ERIE DIVISION**

ERIE COUNTY ENVIRONMENTAL)
COALITION, et. al.)
Plaintiffs,)
v.)
MILLCREEK TOWNSHIP SEWER)
AUTHORITY, et. al.)
Defendants.)
CIVIL ACTION NO: 05-59E
) FOR INJUNCTIVE AND
) DECLARATORY
) RELIEF AND FOR
) CIVIL PENALTIES
)

**PLAINTIFFS' ANSWERS TO
DEFENDANTS' FIRST SET OF INTERROGATORIES**

GENERAL OBJECTIONS

1. Plaintiffs object to each interrogatory to the extent that it requests disclosure of information protected by the attorney client, work product, or other applicable privileges.
2. Plaintiffs object to each interrogatory to the extent that it requires actions or disclosures beyond those required by the Pennsylvania Rules of Civil Procedure

RESPONSES TO SPECIFIC INTERROGATORIES

1. Please identify any known individuals with knowledge relevant to facts and claims alleged in Plaintiffs' Complaint and/or Defendants' Answer. For each such individual, please identify the person's name, address and relevant knowledge.

ANSWER:

names of these members, their phone numbers and addresses are listed above. See Answer to No. 2.

The contamination that the members of these organizations complain of is a result of the Defendants' repeated discharge violations for repeatedly discharging pollutants without a National Discharge Elimination System Permit. The discharges from Defendants' wastewater treatment facility at 3608 West 26th Street, Erie, Pennsylvania 16506. Violations also involve the following outfalls of Millcreek: the Kearsarge Pumping Station, the 51st and Zimmerly Bypass, the Larchmont and Beaver Bypass, and the Church and Patton Bypass. All of these pumping stations discharge raw sewage into the Walnut Creek. For list of discharges, from each station, including Date, total hours of discharge and amount of discharge see Complaint ¶ 34. Also see Answer No. 7(a) below for the most recent violations.

6. **Identify each adverse effect, environmental harm or degradation to Walnut Creek and/or any other water body in the watershed that Plaintiffs claim have been caused by Defendants' alleged discharges.**

ANSWER:

Plaintiffs object to this interrogatory subject to the general objections set forth above and to the extent that any answer provided by Plaintiffs will not lead to any relevant information. No showing of adverse effects, environmental harm or degradation must be made by Plaintiffs to support a contention of discharge violations.

It is a well-known principle and simple fact what the obvious negative impacts of raw sewage are on any waterbody.

A combined sewer overflow (CSO) is the discharge from a combined sewer system (CSS) at a point prior to the Publicly Owned Treatment Works (POTW) Treatment Plant. CSOs are point sources that are subject to National Pollutant Discharge Elimination System (NPDES) permit requirements, which include both technology-based and water quality-based requirements of the Clean Water Act. 33 U.S.C. § 1342. CSOs consist of combinations of domestic sewage, industrial and commercial wastewaters, and storm water runoff. These CSO mixtures often contain high levels of suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants. CSOs can cause exceedances of water quality standards (WQS), which may pose many risks to human health, threaten aquatic life and its habitat and impair the use and enjoyment of waterways. Combined Sewer Overflows: Guidance for Monitoring and Modeling, EPA 832-B-99-002 (January 1999).

7. For each adverse effect, environmental harm or degradation identified in Interrogatory No. 6 above, provide the following:

(a) the date and duration that such adverse effect, environmental harm or degradation occurred;

ANSWER:

See Charts for the names of pumping stations that discharged, when they discharged, the total hours and amount of gallons of sewage discharged on Pages six (6) and seven (7) of the complaint. (Complaint ¶ 34). Also, more recent violations are as follows:

WHERE	WHEN	HOURS OF DISCHARGE	AMOUNT OF DISCHARGE
Kearsarge Pumping Station	April 5, 2005	2 hours and 40 minutes	207,000 Gallons
Kearsarge Pumping Station	January 12, 2005	6 Hours	455,605 Gallons
Kearsarge Pumping Station	December 31, 2004	11 hours and 15 minutes	2,156,100 Gallons
Kearsarge Pumping Station	December 23, 2004	4 hours and 15 minutes	618,000 Gallons

(b) the exact location where such adverse effect, environmental harm or degradation occurred;

ANSWER:

See Charts for the names of pumping stations that discharged, when they discharged, the total hours and amount of gallons of sewage discharged. Complaint ¶ 34. In addition, see chart of new violations added above.

(c) the basis for Plaintiffs' conclusion that such adverse effect, environmental harm or degradation occurred;

ANSWER:

Plaintiffs object to this interrogatory subject to the general objections set forth above and to the extent that any answer provided by Plaintiffs will not lead to any relevant information. No showing of adverse effects, environmental harm or degradation must be made by Plaintiffs to support a contention of discharge violations.

It is a well-known principle and simple fact what the obvious negative impacts of raw and/or inadequately treated sewage are on any waterbody.

A combined sewer overflow (CSO) is the discharge from a combined sewer system

(CSS) at a point prior to the Publicly Owned Treatment Works (POTW) Treatment Plant. CSOs are point sources that are subject to National Pollutant Discharge Elimination System (NPDES) permit requirements, which include both technology-based and water quality-based requirements of the Clean Water Act. 33 U.S.C. § 1342. CSOs consist of combinations of domestic sewage, industrial and commercial wastewaters, and storm water runoff. These CSO mixtures often contain high levels of suspended solids, pathogenic microorganisms, toxic pollutants, floatables, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants. CSOs can cause exceedances of water quality standards (WQS), which may pose many risks to human health, threaten aquatic life and its habitat and impair the use and enjoyment of waterways. Combined Sewer Overflows: Guidance for Monitoring and Modeling, EPA 832-B-99-002 (January 1999).

(d) identify all facts and documents, and all persons with knowledge of such facts and documents, supporting Plaintiffs' conclusion that such adverse effect, environmental harm or degradation occurred;

ANSWER:

See Answer to No. 7(c) above.

The Environmental Protection Agency lists specific pollutants of concern found in CSOs and Sanitary Sewer Overflows (SSOs), which are likely to cause or contribute to water quality impairment. *See* EPA's Report to Congress on the Impacts and Control of CSOs and SSOs, August 2004, EPA Document 833-R-04-001. These pollutants are certain oxygen-demanding substances, sediment or total suspended solids, pathogens, toxics,

nutrients and floatables. The adverse effects and environmental degradation these pollutants are likely to cause include impairment and degradation of aquatic life support, drinking water supplies, fish consumption, shellfish harvesting and recreational uses. These pollutants and commensurate environmental harms are likely to result from the Defendants' numerous discharges of raw and inadequately treated sewage, which contain several of these pollutants.

People with knowledge of such facts are the same as those listed above in the Plaintiffs' Answer to Interrogatory No. 1.

(e) the basis for Plaintiffs' conclusion that Defendants' alleged discharges caused such adverse effect, environmental harm or degradation; and

ANSWER:

Plaintiffs object to this interrogatory subject to the general objections set forth above and to the extent that any answer provided by Plaintiffs will not lead to any relevant information. No showing of adverse effects, environmental harm or degradation must be made by Plaintiffs to support a contention of discharge violations.

See Answer to No. 7 (c) & (d) above.

(f) identify all facts and documents, and all persons with knowledge of such facts and documents, supporting Plaintiffs' conclusion that Defendants' alleged discharges caused such adverse effect, environmental harm or degradation.

ANSWER:

See Answer to 7 (c) & (d) above. Combined Sewer Overflows: Guidance for Monitoring

and Modeling, EPA 832-B-99-002 (January 1999).

People with knowledge of such facts are the same as those listed above in the Plaintiffs' Answer to Interrogatory No. 1.

8. **Identify any and all facts and documents, and persons with knowledge of such facts and documents, that support Plaintiffs' contentions in Paragraph 12 of the Complaint that, "Millcreek continues to discharge significant amounts of raw sewage and/or inadequately treated sewage into Walnut Creek and its surrounding tributaries without a NPDES permit or a Pennsylvania water quality management permit."**

ANSWER:

Documents that support the contention that Millcreek continues to discharge significant amounts of raw sewage and/or inadequately treated sewage into Walnut Creek and its surrounding tributaries are the same as those listed above in the Plaintiffs' Answer to Interrogatory No. 7(a).

The Defendants have admitted in Paragraph 12 of their Answer to Plaintiffs' Complaint that they have not been issued a NPDES permit, supporting the contention that Millcreek continues to discharge without a NPDES permit.

People with knowledge of such facts are the same as those listed above in the Plaintiffs' Answer to Interrogatory No. 1.

9. **Identify any and all facts and documents, and persons with knowledge of such facts and documents, that support Plaintiffs' contentions in Paragraph 14 of the**

Complaint that, "Without the issuance of injunctive relief and the assessment of civil penalties, Defendants will continue to degrade the quality of Walnut Creek and its surrounding tributaries to the further injury of the plaintiffs, plaintiffs' members, and the environment."

ANSWER:

Based on the number of past overflow violations, it is evident that the quality of the Walnut Creek and its surrounding tributaries will continue to be degraded by the defendant if injunctive relief is not issued and civil penalties assessed. See Charts for the names of pumping stations that discharged, when they discharged, the total hours and amount of gallons of sewage discharged. Complaint ¶ 34. Also, more recent violations are as follows:

WHERE	WHEN	HOURS OF DISCHARGE	AMOUNT OF DISCHARGE
Kearsarge Pumping Station	April 5, 2005	2 hours and 40 minutes	207,000 Gallons
Kearsarge Pumping Station	January 12, 2005	6 Hours	455,605 Gallons
Kearsarge Pumping Station	December 31, 2004	11 hours and 15 minutes	2,156,100 Gallons
Kearsarge Pumping Station	December 23, 2004	4 hours and 15 minutes	618,000 Gallons

In addition to these documented violations, plaintiffs also refer to two separate consent order and agreements that were entered into by the defendants and the Pennsylvania Department of Environmental Protection. The first consent order agreement was entered into the Commonwealth of Pennsylvania, Department of Environmental Protection, Millcreek Township and the Millcreek Township Sewer Authority on January 7, 1992. The second consent order and agreement was entered into by the above parties on

October 31, 2003.

In the consent order and agreement entered into in 2003, Paragraph Q states: "Despite the system improvements in Paragraph O, above [discussing the Township and Sewer Authorities' expanding their regulations regarding inspections and termination of unlawful connections in the Kearsarge pump station], the Township and Authority continue to allow untreated sewage to be periodically discharged to Walnut Creek via the Kearsarge Overflow and from other areas tributary to the Kearsarge pump station. The Township and the Authority have reported the overflow events...and have paid penalties for the reported overflows at the Kearsarge pump station in accordance with the 1992 COA." *See Consent Order and Agreement, October 31, 2003.*

This paragraph indicates that the finding of the DEP at the time the consent order and agreement were entered in to was that the Township and the Sewer Authority continued to allow discharges of sewage to occur in Walnut Creek. It also indicates that between the time of the signing and implementation of the 1992 COA and the 2003 COA, the Township and the Authority have reported violations and have paid fines for those violations. Therefore, the discharges that were to be stopped by the 1992 COA continued past the signing of the order and agreement, thus necessitating a subsequent COA in 2003.

In addition, it is indicated in Paragraph V of the 2003 COA that the violations described above were unlawful. Paragraph V states in part: "The violations described in Paragraphs Q and S, above, constitute unlawful conduct pursuant to Section 611 of the Clean Streams Law, 35 P.S. §691.611; are statutory nuisances pursuant to Section 601 of the Clean Streams Law, 35 P.S. §691.601; and subject the Township and the Authority to

civil penalty liability pursuant to 605 of the Clean Streams Law, 35 P.S. §691.605." The Township and the Authority were made aware that this conduct was in violation of the law. The Township and the Authority continue to discharge sewage into the Walnut Creek despite the 2003 COA. Though they have paid fine for these discharge violations, the discharge of sewage into the Walnut Creek and its surrounding tributaries continued to occur.

The COAs and the minimal fines that the Township and the Sewer Authority have received thus far are not acting as a deterrent from discharging into the Walnut Creek. In order for the deterrent effect to be achieved the defendants will need to be placed in a worse position than they would have been in had they complied in the first place. Environmental Protection Agency, "Policy on Civil Penalties," February 16, 1984. The Clean Water Act and its corresponding regulations set up a system of enforcement for noncompliance. One aspect of such enforcement is the imposition of civil penalties. Civil penalties are often imposed to deter a violator to continue to violate. In regard to injunctive relief, such relief would prohibit Millcreek from continuing to violate the Clean Water Act, i.e. prohibit the unpermitted discharge of pollutants into Walnut Creek. It is obvious that the elimination of illegal discharge will stop the continuous degradation and prevent further aesthetic and recreational injury to Plaintiffs.

- 10. Identify any and all facts and documents, and persons with knowledge of such facts and documents, that support Plaintiffs' contentions in Paragraph 15 of the Complaint that, "The issuance of injunctive relief and imposition of civil penalties is likely to encourage Defendants to discontinue its current violations and deter it from**

Documents that support each allegation of discharge are the same as those listed above in the Answer to Interrogatory No. 3.

Defendant Millcreek admitted in part to certain allegations of violations in its Answer to Plaintiffs' Complaint.

People with knowledge of such facts are the same as those listed above in the Plaintiffs' Answer to Interrogatory No. 1.

- 19. Identify the amount of civil penalties Plaintiffs seek to have the Court impose upon the Defendants and basis of such a request, including any and all facts and documents, and all persons with knowledge of such facts and documents, that support such a request.**

ANSWER:

The Clean Water Act authorizes civil penalties for up to twenty-seven thousand five hundred dollars (\$27,500) per violation occurring prior to March 15, 2004 and thirty-two thousand five hundred (\$32,500) for each violation occurring after March 15, 2004. 33 U.S.C. 1319; 40 CFR § 19.4. A Class I penalty may be assessed in an amount of up to \$10,000 per violation, not to exceed \$25,000; a Class II penalty may be assessed in an amount of up to \$10,000 per day per violation, but not to exceed \$125,000. *See* 33 U.S.C. §§ 1251, 1311, 1342; ¶ 35 of the complaint.

- 20. Identify the specific mitigation Plaintiffs claim Defendants must perform to address the alleged environmental injuries that Plaintiffs claim Defendants have caused, together with the basis of such mitigation and any and all facts and documents, and**

all persons with knowledge of such facts and documents, that support such mitigation.

ANSWER:

Plaintiffs are currently formulating a proposal for a project that will help improve the water quality in Walnut Creek. Plaintiffs will supplement this response at such time as they have developed a specific project.

- 21. Identify all actions Plaintiffs claim Defendants must take to best comply with the requirements of the Clean Water Act, explain how such actions will make Defendants comply with the Clean Water Act and identify any and all facts and documents, and all persons with knowledge of such facts and documents, that support such action.**

ANSWER:

Under the Clean Water Act, a permit is required for the discharge of any pollutant into the navigable waters of the United States. 33 U.S.C. § 1342(a)(1). The discharge of any pollutant, by any person without a permit is unlawful. 33 U.S.C. § 1311(a). The terms “discharge of a pollutant” and “discharge of pollutants” mean “any addition of any pollutant to navigable waters from any point source.” 33 U.S.C. § 1362(12). A “point source” is “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” 33 U.S.C. § 1362(14).

Plaintiffs object to this interrogatory to the extent that it demands factual information to

be provided when the definition of a "discharge" under Section 502(12) of the Clean Water Act, 33 U.S.C. § 1362(6), and the definition of "point source" under Section 502(14) of the Clean Water Act, 33 U.S.C. § 1362(14) are in fact a legal arguments.

22. **Identify each standard operating procedure Plaintiffs claim that Defendants must implement to enable Defendants to attain and maintain compliance, explain how such procedure will enable Defendants to attain and maintain compliance, and identify any and all facts and documents, and all persons with knowledge of such facts and documents, that support implementing such a procedure.**

ANSWER:

Plaintiffs object to this interrogatory subject to the general objections set forth above . Plaintiffs recognize that there are different strategies available to attain and maintain compliance. Plaintiffs do not advocate any one strategy over another but do assert that Defendants must however implement some affirmative standard operating procedure. Such procedures are usually controlled by a NPDES permit.

Primarily, Defendants must discontinue all discharges into Walnut Creek. Defendants must build facilities to accommodate the entire sewage system and expand their capacity to handle all overflows. Defendants must have a proper plan and procedures in place to meet effluent limitations required by law.

Also, Defendants are encouraged to implement the nine minimum controls established by the EPA, which are: proper operation and regular maintenance programs for the sewer system and the CSOs; maximum use of the collection system for storage; review and modification of pretreatment requirements to assure CSO impacts are minimized;

maximization of flow to the POTW for treatment; prohibition of CSOs during dry weather; control of solid and floatable materials in CSOs; pollution prevention; public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts; and monitoring to effectively characterize CSO impacts and the efficacy of CSO controls. Combined Sewer Overflows: Guidance for Monitoring and Modeling, EPA 832-B-99-002 (January 1999).

Additionally, CSO operators are responsible for developing and implementing long-term control plans that will eventually lead to compliance with the Clean Water Act. The major objectives of a long-term plan outlined by the EPA are: characterization, monitoring and modeling of the combined sewer system; public participation; consideration of sensitive areas; evaluation of alternatives; cost/performance consideration; operational plan; maximizing treatment at the existing POTW plant treatment plant; implementation schedule; and post-construction compliance monitoring program. Combined Sewer Overflows: Guidance for Monitoring and Modeling, EPA 832-B-99-002 (January 1999).

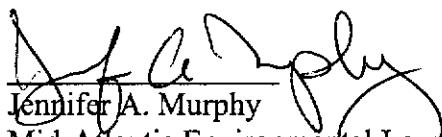
23. Identify each environmental management system that Plaintiffs claim that Defendants must implement to enable Defendants to attain and maintain compliance, explain how such system will enable Defendants to attain and maintain compliance, and identify any and all facts and documents, and all persons with knowledge of such facts and documents, that support implement such a system.

ANSWER:

Plaintiffs object to this interrogatory subject to the general objections set forth above.

Plaintiffs do not advocate any one strategy over another but Defendants must, however, implement some environmental management system. The environmental management system requires a facility to put in place and implement a series of practices and procedures, that when taken together, result in an environmental management system. For more information on how EPA implements such a program, *see* www.epa.gov/own/iso14001/index.htm.

Respectfully submitted,

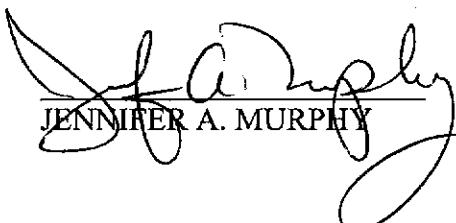


Jennifer A. Murphy
Mid-Atlantic Environmental Law Center
c/o Widener University School of Law
Environmental and Natural Resources Law Clinic
4601 Concord Pike
Wilmington, DE 19803-0474
(302) 477-2086
(302) 477-2032 (fax)
Attorney for Plaintiffs

CERTIFICATE OF SERVICE

The undersigned certifies that on October 26, 2005 she served a true and correct copy of Plaintiffs' Answers to Defendants' First Set of Interrogatories on the following, via first-class mail:

Mark J. Shaw
MacDonald, Illig, Jones & Britton LLP
100 State Street, Suite 700
Erie, PA 16507-1459
Direct: (814) 870-7607



JENNIFER A. MURPHY

IN THE UNITED STATES DISTRICT COURT OF PENNSYLVANIA
WESTERN DISTRICT, ERIE DIVISION

ERIE COUNTY ENVIRONMENTAL)
COALITION, et. al.)
Plaintiffs,) CIVIL ACTION NO: 05-59E
v.)
MILLCREEK TOWNSHIP SEWER)
AUTHORITY, et. al.)
Defendants.) FOR INJUNCTIVE AND
) DECLARATORY
) RELIEF AND FOR
) CIVIL PENALTIES
)

VERIFICATION

I verify that the statements made in the foregoing answers to the interrogatories are true and correct to the best of my knowledge, information and belief. I understand that false statements herein are made subject to the penalties of 28 U.S.C. § 1746 relating to unsworn falsification to authorities.

Catherine L. Pedler

HILL ENGINEERING, INC.

8 GIBSON STREET NORTH EAST, PENNSYLVANIA 16428
(814) 725-8659 FAX: (814) 725-3867

January 30, 2006

Mr. Mark J. Shaw, Esq.
MacDonald, Illig, Jones & Britton, LLP
100 State Street, Suite 700
Erie, PA 16507-1459

Reference: Kearsarge Pump Station ORF
Millcreek Township Sewer Authority

Dear Mr. Shaw:

I have been retained by Millcreek Township Sewer Authority (MTSA) and Millcreek Township (MT) to provide an expert opinion and independent evaluation of the proposed Overflow Retention Facility (ORF) for the Kearsarge Sanitary Sewer Pump Station, and of the Plaintiff's Demand for Relief in the nature of operating procedures and stream assessment and mitigation. I am being compensated at a rate of \$85 per hour for these services.

I reviewed numerous documents you provided regarding the proposed Kearsarge Pump Station Upgrades and Overflow Retention Facility being constructed by the MTSA. These documents included infiltration/inflow studies, Act 537 Studies and Addendums, correspondence from the design engineer, Consent Order and Agreements, Agreement with the City of Erie, construction specifications, construction drawings and Walnut Creek water quality data. A list of documents provided is attached.

This letter summarizes current problems at the Kearsarge Pump Station, the alternatives analyzed and the proposed project solution. Per your request, my professional opinions are provided with respect to the basis of design, operating procedures and water quality impacts.

Current Problems

A bypass was installed on the Kearsarge Pump Station force main in December 1988. This bypass was installed to minimize sewage back-ups and associated basement flooding in service areas tributary to the pump station. This bypass is operated if wet well levels at the pump station become too high causing back-ups and to minimize risks to public health and safety.

From December 1999 through December 2005, the Millcreek Township Sewer Authority (MTSA) reported 19 overflow (bypass) events at the Kearsarge Pump Station. One (1) of these overflow events was related solely to a mechanical failure. The other 18 events all occurred during wet weather conditions.

Mr. Mark J. Shaw, Esq.
January 30, 2006
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The Consent Order and Agreement (CO&A) between the PA Department of Environmental Protection (PA DEP), MTSA and MT dated November 5, 2003, required the MTSA and MT to evaluate alternatives and implement a project which would eliminate overflows at the Kearsarge Pump Station. The CO&A limits connections tributary to the pump station and provides stipulated penalties for overflow events.

Alternatives Analyzed

The MTSA utilized Consoer Townsend Envirodyne Engineers, Inc. (CTEE) to investigate the problem, complete Act 537 studies, evaluate alternatives and develop a proposed solution. CTEE is a large and nationally recognized engineering firm with expertise in sanitary engineering. CTEE has now become part of Metalf and Eddy, which is a similar type of engineering firm.

CTEE evaluated several alternatives as part of the Act 537 Plan and special studies. These alternatives included infiltration/inflow (I/I) abatement, maximize forward pumping and overflow storage.

Over the last several years, the MTSA has completed infiltration/inflow studies and abatement projects. Prior efforts by MTSA at infiltration/inflow abatement have not been successful in eliminating the overflow at the Kearsarge Pump Station. The 2003 CO&A did not list infiltration/inflow abatement as an alternative to be evaluated. The Overflow Abatement Alternative Report dated August 13, 2003 by CTEE stated "I&I abatement has been ruled out as an alternate solution by the PA DEP who has stated that they would not accept this as a solution". Therefore, given the position of the PA DEP, the sole use of I/I abatement to address overflows at the pump station was not an option.

Maximization of forward pumping capacity is restricted due to current limitations on MTSA and MT in their Agreement with the City of Erie dated August 6, 1997. The Kearsarge Pump Station and other areas in Millcreek Township eventually discharge to the Manor Drive interceptor in the City of Erie. The referenced Agreement limits the Manor Drive interceptor ultimate peak flow capacity to 30.5 MGD for Millcreek, Fairview and Summit Townships (23.25 MGD for Millcreek alone). The City of Erie sanitary sewer system was designed to handle only those peak flows, and if MTSA and MT were to significantly exceed the design peak flows, there is potential for downstream overflows and surcharging.

Reports by CTEE indicate that a second downstream connection to reduce flows on the Manor Drive interceptor is not acceptable to the City of Erie.

Mr. Mark J. Shaw, Esq.

January 30, 2006

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The Act 537 Special Study Addendum dated May 17, 2005 prepared by CTEE indicates that the maximum forward pump capacity at the Kearsarge Pump Station should not exceed 4500 gpm during wet weather storm events in order to prevent exceedence of the flow limitation in the Agreement.

Since there are significant limitations on the ability to increase forward pump capacity, CTEE concluded that overflow storage was required. CTEE evaluated several design storms and corresponding storage volumes. Selection of the overflow storage volume is discussed under the "Basis of Design" section of this letter.

In my professional opinion, increasing forward pumping capacity in an amount sufficient to eliminate required overflow storage is not a viable option, given the current Agreement and City of Erie capacity limitations. In my professional opinion, an overflow retention facility (ORF) is required at the pump station.

Proposed Project

The proposed project involves construction of storage tanks at the Kearsarge Pump Station to store excess flows which exceed forward pumping capacity. The stored wastewater is drained to the forward pump station after flows subside.

The proposed project was designed by CTEE and includes the following major items:

- Replacement of the three (3) existing pumps at the Kearsarge Station ("forward pumps") to increase the design capacity of the pump station from approximately 3600 to 4500 gpm, with two (2) pumps operating.
- Construction of a "storage pump station" consisting of three (3) submersible pumps with a design capacity of 4500 gpm, with two (2) pumps operating.
- Construction of two (2) storage tanks, each with a capacity of approximately 1,150,000 gallons. Each tank will be approximately 56 feet in diameter and 65 feet high.
- Installation of a 750 KW electric standby generator capable of operating all facilities during a power outage.
- Associated piping, structures, instrumentation and controls.

The existing bypass piping will be removed when construction is completed.

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Construction is anticipated to begin in Spring 2006 and is expected to be completed in or before March 2007.

Basis of Design

In order to design an overflow abatement project, influent flows, pumped flow rates and bypass volumes need to be reasonably determined and verified.

During the design investigation work, CTEE discovered that the pump station discharge flow meter was inaccurate. CTEE conducted wet well drawdown tests to establish a calibration multiplier for this pump station discharge meter to provide accurate flow data for design purposes.

CTEE used three (3) separate flow meters in lines upstream of the pump station to determine flows into the station. CTEE reports that these flow meters were routinely calibrated and properly maintained. The Act 537 Special Study dated June 2004 by CTEE shows that the influent flow meters correlate well with the recalibrated pump station discharge meter. As such, CTEE concluded that the recalibrated pump station flow meter could be relied upon for design analysis.

Bypass volumes were estimated by CTEE by analyzing pumped flow rates, force main pressures and pump characteristics.

CTEE reviewed several possible storage tank sizes in reports, correspondence and preliminary design work from 2003 to 2005.

The basis for the current design is provided in the Act 537 Special Study Addendum dated May 17, 2005, prepared by CTEE. In this Addendum Report, CTEE used the September 8-9, 2004 storm event (remnants of Hurricane Frances) to design the ORF.

During this storm event, approximately 4½ inches of rain fell in approximately 12-hours. CTEE estimates this is equivalent to a 50 year recurrence interval.

The CTEE Report used pump station flows during the September 8-9 storm event, added 10 year future growth projections and subtracted the maximum sustained forward pumping capacity of 4500 gpm to determine required storage tank volume. These calculations showed a required storage volume of 2,212,075 gallons. CTEE recommended a storage tank volume of 2,300,000 gallons and believed that this volume would accommodate a 50 year design storm recurrence interval.

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For comparison, the Agreement between the City of Erie and MTSA dated August 6, 1997, states that the design storm event used to size the City's eastside and westside conveyance systems was a 1.06 inch rainstorm event, approximately 2-hours in duration with at least 3 days of antecedent dry weather conditions (occurred on August 11, 1995).

This design storm event used to size the City of Erie sewer conveyance systems, is much less intense and has a lower recurrence interval (less than 2 years) than the design storm event used by CTEE to size the Kearsarge Pump Station ORF. It should also be noted there was no overflow at the Kearsarge Pump Station on the design day selected by the City of Erie for their system upgrades.

The PA DEP Domestic Wastewater Facility Manual states the following with regards to design aspects for emergency operation of pump stations:

"Pumping stations and collection systems shall be designed to prevent or minimize bypassing of raw wastewater. For use during possible periods of extensive power outages, mandatory power reductions or storm events, consideration should be given to providing a controlled, high-level wet well overflow to supplement alarm systems and emergency power generation in order to prevent backup of wastewater into basements, or other discharges which may cause severe adverse impacts on public interests, including public health and property damage. Where a high-level overflow is utilized, consideration shall also be given to the installation of storage detention tanks or basins, which shall be made to drain to the station wet well. Where such overflows affect public water supplies, shell fish production or waters used for culinary or food processing purposes, a storage detention basin or tank shall be provided having a two-hour detention capacity at the anticipated overflow rate".

In reference to the DEP Manual, Walnut Creek is not used for public water supply, shell fish production or food processing purposes. The detention capacity provided at the maximum assumed storage pumping rate of 4500 gpm is approximately 8.5 hours, which exceeds the DEP design standard, even though the receiving stream does not have the listed critical uses.

The PA DEP does not have a formal design standard for recurrence interval on storm events to prevent overflows in separate sanitary sewer systems. Based on discussions with PA DEP personnel, it is our understanding that some of the DEP regional offices use a 2 year, 24-hour storm event as an informal design guideline for preventing overflows. The 2 year, 24-hour storm equates to about 2.56 inches of rain for the Erie area. This 2 year, 24-hour storm design event is based upon a memorandum from EPA Region III to the PA DEP dated July 14, 1995.

Mr. Mark J. Shaw, Esq.

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The use of a 50 year storm event to size the Kearsarge ORF is considered conservative based on my experience and guidelines provided by the PA DEP. Thus, in my professional opinion, MTSAs implementing a remedy that exceeds standards used by other municipalities in similar situations. Designing for the maximum possible flow to prohibit any type of overflow event in the future is not customary or practical. Given the above factors, in my professional opinion, the ORF sizing selected by CTEE is sufficient and does not need to be increased.

The proposed Kearsarge Pump Station Upgrades and ORF incorporate the following design features:

- Expansion and upgrade of existing forward pumps and new flow meter.
- Automated controls for pumping and tank draining. Automated alarms connected to the MTSAs SCADA system.
- Complete standby electric generating capability.
- Service platforms with high pressure water cannons for tank cleaning.
- Quick access door to tank interior for inspection.
- Remote cameras mounted on top of tanks to view contents.
- Gravity overflow to storage pumps which minimizes discharge of floatables.
- Third standby pump for both forward and storage pumping stations.
- Use of variable speed pumps.
- Tank drain line is screened prior to entering wet well.
- Pipe cleanouts and isolation valves are provided.

CTEE evaluated potential odor control through aeration or chemical addition. Inspections of other ORF facilities by CTEE and MTSAs did not indicate odor as a problem due to the diluted wastewater and anticipated storage times. Provisions for chemical addition for odor control are provided, if necessary.

In my professional opinion, the Kearsarge Pump Station design features should allow the system to function properly and reliably and facilitate removal of the bypass.

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Operating Procedures

Correspondence and reports from CTEE outline operating procedures for the Kearsarge Pump Station and ORF, which are as follows:

- The forward pump flow will be automatically controlled to limit flow to 4500 gpm to maintain compliance with the City Agreement and keep flows from exceeding downstream capacity limitations.
- When flows entering that station exceed 4500 gpm, the wet well level will increase, such that it will be diverted by gravity pipe to the storage pump station. This diversion level was set to prevent basement flooding in upstream service areas.
- Level controls are provided in the storage pump wet well to automatically run the pumps to convey diverted wastewater to the storage tanks.
- When forward pump rates are below 4500 gpm and forward wet well level has dropped below the diversion elevation, stored wastewater is returned at a controlled rate to the forward wet well through an automatic modulating drain valve. This will allow the stored wastewater to be retuned to the system as soon as possible.
- Storage tank levels will be continuously monitored by a pressure transducer in the storage pump valve pit, which allows for proper operation.
- If incoming flows exceed 9000 gpm during extreme flow events (total of forward and storage pumping) the forward wet well level will increase to a point whereby the controls limiting forward flow to 4500 gpm will be automatically removed to allow a higher pumping rate to the City. CTEE estimates that forward flows could be increased to approximately 5500-6000 gpm during these extreme flow events. If this high wet well level is reached, an alarm will be automatically activated and MTSA personnel will be notified through the SCADA system.
- Automatic alarms to the SCADA system are provided for wet well levels, flow set points, storage tank level, pump faults and other critical parameters. When these alarms are triggered, MTSA personnel are notified and can then take appropriate action.

In my professional opinion, the operating procedures, controls, alarms and SCADA system specified, are sufficient for this facility and should provide reliable operation in order to maintain compliance with the Clean Water Act.

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Water Quality Impacts

The Kearsarge Pump Station is located adjacent to Walnut Creek. Overflows from the pump station are discharged to Walnut Creek. Walnut Creek in the vicinity of the pump station also receives storm water runoff from the Millcreek Mall and adjacent residential areas.

The MTSA reported 23 overflow events from December 1992 through December 2005. During this December 1992 through December 2005 time period, there were prolonged periods in which no overflows occurred at the Kearsarge Pump Station. Time periods when no overflows occurred were: December 31, 1992 – September 16, 1996 (3 years, 9½ months); January 9, 1998 – December 14, 1999 (1 year, 11 months); November 8, 2000 – August 16, 2001 (9¼ months); and May 13, 2002 – September 28, 2003 (1 year, 4½ months).

From December 1999 to December 2005, the overflow at the Kearsarge Pump Station has been utilized for a total of approximately 120 hours. There were a total of about 52,560 hours during this 6 year period. The overflow occurred only 0.23% of the time, which would be equivalent to about 20 hours per year on average.

Based on the frequency and duration of the overflow events and my experience with other systems, I do not believe that the overflows at the Kearsarge Pump Station could be considered as frequent or chronic.

Almost all of the overflow events occurred during significant wet weather or snow melt conditions. The base flow to the pump station during dry weather, low groundwater conditions is estimated to be less than 700 gpm. The overflow diversion usually begins to occur when station flows reach about 4500 gpm. As such, the wastewater overflow is significantly diluted by infiltration/inflow, with a dilution factor of at least 5 to 1.

Wet weather in the Kearsarge Pump Station service area causing an overflow, would also cause a corresponding increase in stream flow in Walnut Creek. The higher stream flow would minimize water quality impacts of overflow events.

From December 30, 1992 through November 29, 2005, the MTSA estimated the overflow from the Kearsarge Pump Station totaled approximately 16.8 million gallons. Using the above listed dilution factor, actual sewage in the overflow is estimated to be approximately 2.8 million gallons over this time period. In determining water quality impacts, it is important to put the overflow volume in perspective with the total Walnut Creek stream flow over this same time period. We estimate the annual mean stream flow in Walnut Creek at the Kearsarge Pump Station to be approximately 13.8 million

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gallons/day. This stream flow estimate is based on USGS gauging data at a nearby stream and actual drainage area of Walnut Creek at the Kearsarge Pump Station. The total Walnut Creek stream flow over this 12 year, 11 month period is estimated to be about 65 billion gallons. The actual volume of sewage in the pump station overflow during this time period represents only about 0.004% of the total stream flow. Therefore, sewage discharged through the pump station overflow is insignificant when compared to stream flow. This indicates there is no significant potential for long term water quality impacts due to the overflow.

In August 2005, the Erie County Health Department (ECHD) analyzed samples of Walnut Creek for fecal coliform bacteria. On August 31, 2005 a sample of Walnut Creek taken approximately 50 yards upstream of the Kearsarge overflow showed a fecal coliform level of 10,900/100 mL. Another sample taken that same day at the mouth of Walnut Creek, downstream of the Kearsarge Pump Station, had a fecal coliform level of 10,400/100 mL. On August 30-31, 2005, there was 2.21 inches of rainfall reported at the Erie Airport. As such, stream flows in Walnut Creek were elevated. There was no overflow event at the Kearsarge Pump Station on these days.

Samples taken at the mouth of Walnut Creek by ECHD on August 5, 10, 17 and 25, 2005 during dry conditions show fecal coliform levels ranging from 45 to 110/100 mL.

On November 25, 2001, a sample of Walnut Creek downstream of the Kearsarge Pump Station (near Sterrettania and Streamwood Drive) showed fecal coliform results of too numerous to count (TNTC). There had not been any overflow from the Kearsarge Pump Station for approximately 3 months before this sample was collected. There are areas near this sample location that do not have public sewer service.

For comparison of sample results, the fecal coliform standard for public bathing places is a maximum geometric mean of 200/100 mL.

Gannon University provided us water quality data for Walnut Creek collected in 2005. During this sample collection period (5/24/05-10/05/05), there were no overflow events at the Kearsarge Pump Station. The Gannon Walnut Creek data provides two sample locations, one just upstream of the Kearsarge Pump Station and the other downstream between Route 5 and the mouth. Five samples were collected on different days at each sample location.

At the downstream sample location, the Gannon data shows high E coli counts (TNTC and 2900) during wet weather periods and zero (0) E coli during dry weather periods. A relatively high phosphate result was also obtained during wet weather at the downstream sample location. This is indicative of non-point source runoff.

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At the sample location just upstream of the Kearsarge Pump Station, the Gannon data showed levels of E coli ranging from 0-450, with no samples taken during high stream flow conditions.

The sampling data discussed above indicates that during dry conditions, Walnut Creek downstream of the pump station had relatively low levels of fecal coliform and E coli bacteria. The data also shows that during wet weather, fecal coliform and E coli levels were dramatically increased due to factors other than the pump station overflow. These other factors which could increase bacteria levels in the stream include surface runoff, storm water discharges and malfunctioning septic systems.

On January 13, 2006, I viewed Walnut Creek in the vicinity of the Kearsarge Pump Station. There were no visible signs in or along the stream which would indicate a recent or frequent overflow events. Also, I did not notice any visible signs of water quality degradation.

Based on the above analysis, in my professional opinion, the stream assessment and mitigation sought by the Plaintiffs in this case is unnecessary because there is no indication there has been any measurable water quality degradation in Walnut Creek related to the Kearsarge Pump Station overflow, for the following reasons:

- Overflows are not frequent.
- Wastewater is diluted when overflows occur.
- Stream flow is relatively high when overflows occur.
- Overflow volume is small compared to stream flow.
- Sampling data and site observations do not indicate water quality degradation due to the overflow.

If you have any questions, please contact me.

Sincerely,

HILL ENGINEERING, INC.



August E. Maas, P.E.

August E. Maas, P.E., President

EDUCATION

B.S., Civil Engineering, 1979
University of Pittsburgh

MBA, Management and Finance, 1989
Pennsylvania State University

**PROFESSIONAL
REGISTRATION**

P.E., Pennsylvania 1983
P.E., New York 1987
P.E., Ohio 1990
P.E., Georgia 1996

RESPONSIBILITIES

Mr. Maas is a Professional Project Engineer in responsible charge of planning and design of municipal public works projects, specializing in the fields of wastewater and water treatment technology.

Mr. Maas has been employed by the company for nearly twenty years. Prior to working for Hill Engineering, Inc. he was employed for five years by the Pennsylvania Department of Environmental Resources (Meadville Office) where he was responsible for reviewing plans for permitting water and wastewater systems, stream modeling to establish effluent limits, and value engineering cost recommendations.

Mr. Maas has also served as project manager including design and supervision of construction for numerous public works projects by Hill Engineering, Inc. including:

- Ellwood City Borough Wastewater Treatment Plant and sewer system repairs, project cost of \$20 million.
- Borough of Edinboro air stripping tower, pump station and emergency generators.
- Summit Township Water System including pump stations, storage tanks, well supplying, over 50 miles of water lines. Total system costs exceeding \$15 million.
- Meadville Area Sewer Authority sanitary sewer system improvements. Total project costs of approximately \$6 million.
- Ellport Borough Sewer Authority Plant Expansion. Total project cost of approximately \$3.1 million.

- Municipal Authority of the Borough of Mansfield earthen dam, water transmission line, water treatment plant and reservoir. Total project costs of approximately \$2.5 million.
- North East Borough wastewater treatment plant improvements. Total project costs of approximately \$16 million.
- Albion Borough Wastewater Treatment Plant upgrades. Project costs of \$4.5 million.
- Borough of Ridgway water treatment plant improvements including filtration, chemical feed, clearwell, effluent pumping and sludge treatment/dewatering. Total project costs approximately \$5.1 million.
- Borough of Ridgway wastewater treatment plant improvements. Total project costs of approximately \$9.4 million.
- Peek'n Peak Recreation, Inc. wastewater treatment plant and water supply.
- Ulysses Municipal Authority pump station, well houses, chlorination facilities, water line extensions and new wastewater treatment plant.

While employed with the PA DEP, Mr. Maas conducted stream surveys to prepare models for analysis of impacts of pollutant discharges and to determine effluent limits for proposed and existing discharges. Mr. Maas also participated in aquatic surveys and studies. With Hill Engineering, Inc. Mr. Maas has developed stream monitoring programs and reviewed numerous stream aquatic surveys which analyzed pollutant impacts. Mr. Maas has also reviewed data for several dischargers to determine potential stream impacts in order to analyze required treatment facilities.

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III. WQM Industrial Waste and Sewerage Applications Under The Clean Streams Law (35 P. S. §§ 691.1—691.1001)

Southcentral Region: Water Management Program Manager, 909 Elmerton Avenue, Harrisburg, PA 17110, (717) 705-4707.

WQM Permit No. WQG016701, Sewerage, **John G. Boop**, 3382 Lower Glades Road, York, PA 17402-8955. This proposed facility is located in Springettsbury Township, York County.

Description of Proposed Action/Activity: Construction of small flow treatment facility to serve their single family residence.

WQM Permit No. WQG016702, Sewerage, **Mike Mulcahy**, 333 Lexington Street, York, PA 17403. This proposed facility is located in Springettsbury Township, York County.

Description of Proposed Action/Activity: Construction of small flow treatment facility to serve their single family residence.

WQM Permit No. 6705406, Sewerage, **Rodger Petrone**, 4076 Market Street, Camp Hill, PA 17011. This proposed facility is located in Carroll Township, York County.

Description of Proposed Action/Activity: Construction of small flow sewage treatment facility to serve their single family residence.

Southwest Region: Water Management Program Manager, 400 Waterfront Drive, Pittsburgh, PA 15222-4745.

WQM Permit No. 0205409, Sewerage, **Findlay Township Municipal Authority**, 1271 Route 30, P. O. Box 409, Clinton PA 15026. This proposed facility is located in Findlay Township, Allegheny County.

Description of Proposed Action/Activity: Application for the construction and operation of a sanitary sewer extension to serve McCaslin Road and Clinton Industrial Park.

WQM Permit No. 6505401, Sewerage, **DeMill Development**, R. D. 2, Box 181, Wolf Lake Road, New Alexandria, PA 15670. This proposed facility is located in Unity Township, Westmoreland County.

Description of Proposed Action/Activity: Application for construction and operation of force main and pump station.

WQM Permit No. 6505405, Sewerage, **Rostraver Township Sewage Authority**, 202 Port Royal Road, Belle Vernon, PA 15012. This proposed facility is located in Rostraver Township, Westmoreland County.

Description of Proposed Action/Activity: Application for the construction and operation of about 76,100 LF of sanitary sewer line construction including gravity sewer ranging in size from 24" to 8" diameter, force main and two pump stations.

The Pennsylvania Infrastructure Investment Authority which administers this Commonwealth's State Revolving Fund has been identified as a possible funding source. The Department of Environmental Protection's review of the sewage facilities plan revision has not identified any significant environmental impacts resulting from this proposal.

Northwest Region: Water Management Program Manager, 230 Chestnut Street, Meadville, PA 16335-3481.

WQM Permit No. 2583409, Sewerage Amendment No. 1, **Millcreek Township Sewer Authority**, 3608 West 26th Street, Erie, PA 16506. This proposed facility is located in Millcreek Township, Erie County.

Description of Proposed Action/Activity: This project is for the Kearsarge pump station upgrade to include a 2.3 million gallon overflow retention facility.

WQM Permit No. 2595402, Sewerage Amendment No. 1, **Millcreek Township Sewer Authority**, 3608 West 26th Street, Erie, PA 16506. This proposed facility is located in Millcreek Township, Erie County.

Description of Proposed Action/Activity: This project is for the relocation of a private storm sewer which will require a revision of their outfall location.

IV. NPDES Applications for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4)**V. Applications for NPDES Waiver Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4)****VI. NPDES Individual Permit Applications for Discharges of Stormwater Associated with Construction Activities**

Southeast Region: Water Management Program Manager, 2 East Main Street, Norristown, PA 19401.

NPDES Permit No.	Applicant Name & Address	County	Municipality	Receiving Water / Use
PAI012305004	The Rouse Group Development Co., LP Ashford Subdivision 2109 Bellemead Avenue Havertown, PA 19803	Delaware	Newtown Township	Crum Creek (HQ-TSF)

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effluent collection system; 8,700 feet will be conventional gravity sewer. Disinfection will be by UV light with a backup chlorinator during flood stage events. A cascade aerator will increase dissolved oxygen levels prior to discharge to Blockhouse Creek.

Southwest Region: Water Management Program Manager, 400 Waterfront Drive, Pittsburgh, PA 15222-4745.

✓ **WQM Permit No. 3285201-A1**, Industrial Waste, **EME Homer City Generation, LP**, 1750 Power Plant Road, Homer City, PA 15748-8009. This proposed facility is located in Center and Blacklick Townships, **Indiana County**.

Description of Proposed Action/Activity: Installation of retention pond synthetic liners.

Northwest Region: Water Management Program Manager, 230 Chestnut Street, Meadville, PA 16335-3481.

✓ **WQM Permit No. WQG018374**, Sewerage, **Donald Ferri**, 625 Burkhart Avenue, Erie, PA 16511. This proposed facility is located in North East Township, **Erie County**.

Description of Proposed Action/Activity: A single residence sewage treatment plant.

✓ **WQM Permit No. WQG018408**, Sewerage, **Mike Morini**, 5028 Old Pittsburgh Road, New Castle, PA 16101. This proposed facility is located in Wayne Township, **Lawrence County**.

Description of Proposed Action/Activity: A single residence sewage treatment plant.

✓ **WQM Permit No. WQG018416**, Sewerage, **David M. Thomas**, 16658 US Route 6, Smethport, PA 16749. This proposed facility is located in Keating Township, **McKean County**.

Description of Proposed Action/Activity: A single residence sewage treatment plant.

✓ **WQM Permit No. 2583409**, Sewerage Amendment No. 1, **Millcreek Township Sewer Authority**, 3608 West 26th Street, Erie, PA 16506. This proposed facility is located in Millcreek Township, **Erie County**.

Description of Proposed Action/Activity: This project is for the Kearsarge pump station upgrade to include a 2.3 million gallon overflow retention facility.

IV. NPDES Stormwater Discharges from MS4 Permit Actions

V. NPDES Waiver Stormwater Discharges from MS4 Actions

VI. NPDES Discharges of Stormwater Associated with Construction Activities Individual Permit Actions

Southeast Region: Water Management Program Manager, 2 East Main Street, Norristown, PA 19401.

NPDES Permit No.	Applicant Name & Address	County	Municipality	Receiving Water / Use
PAI011503093	Toll Brothers, Inc./Orleans Homebuilders, Inc. Ewing Tract—Upper Uwchlan Dev. 325 Fellowship Road Chester Springs, PA 19425	Chester	Upper Uwchlan Township	Tributary Pickering Creek (HQ)
PAI011505005	David McFadden 490 Byers Road Subdivision 996 Old Eagle School Road Wayne, PA 19087	Chester	Uwchlan Township	Pickering Creek (HQ-TSF)
PAI011505034	Archdiocese of Philadelphia St. Peter's Church and Rectory 1080 North Manor Road Honey Brook, PA 19344-9610	Chester	West Brandywine Township	West Branch Brandywine Creek/Beaver Creek (HQ-TSF-MF/TSF-MF)
PAI011505062	Supervisors of West Nantmeal Township West Nantmeal Township Soccer Fields 455 North Manor Road Elverson, PA 19520	Chester	West Nantmeal Township	UNT East Branch Brandywine Creek (HQ-TSF-MF)
PAI012305002	County of Delaware Delaware County Bridge No. 209 201 West Front Street Government Center Building Room 207 Media, PA 19063-2788	Delaware	Middletown Township	Chester Creek Watershed (HQ-CWF-MF)

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METCALF & EDDY | AECOM

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January 30, 2006

Mark Shaw, Esq.
MacDonald, Illig, Jones & Britton
100 State Street
Suite 700
Erie, PA 16507

Dear Attorney Shaw:

As counsel for the Millcreek Township Sewer Authority (MTSA) and Millcreek Township (MT) you requested me to provide expert testimony regarding the adequacy of the projects being implemented by the MTSA and MT pursuant to the 2003 Consent Order and Agreement (COA), which includes the design and construction of facilities to remove the Kearsarge pump station's and its tributary sewer system's overflows.

My employer, Metcalf & Eddy, Inc./AECOM, is being compensated for my time at a rate of \$158.77.

QUALIFICATIONS

A. Education

I am a registered Professional Engineer in the State of Pennsylvania and have a Bachelor of Science and a Master of Science degree in sanitary engineering from the Pennsylvania State University. My applicable course work included sewer and pump station design, wastewater treatment theory, and microbiology in addition to normal civil engineering course work. My Bachelor's degree was obtained in 1964 and my Masters in 1972.

B. Work Experience

I worked for the PA Department of Environmental Protection (then the PA Department of Health and the PA Department of Environmental Resources) from 1965 to 1972 (except for 1-1/3 years spent working on my Masters). During that time I served as Chief of the Planning, Operations, and Facilities Sections in three different regional offices ending with the Meadville Regional Office.

From 1972 to 1976 I worked with the Erie County Health Department as Director of Sanitary Engineering which included supervision of staff performing the same functions delineated above, plus supervising the onlot disposal and solid waste disposal programs.

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From 1976 until 2005 (October) I worked for Consoer Townsend Envirodyne Engineers/AECOM (originally Consoer Townsend & Associates) in their Erie office beginning as an Associate and ultimately as the Business Unit Manager. During that time I worked with sewer collection and treatment, water distribution and treatment, and solid waste management for up to eleven municipal clients including the Millcreek Township Sewer Authority. I also represented the Erie Sewer Authority on the Lake Erie Lake Management Plan Forum Committee and the Presque Isle Bay RAP Policy Advisory Committee.

In October, 2005, the Erie office was moved to the control of Consoer Townsend's sister AECOM company, Metcalf & Eddy/AECOM. The Erie office's clients and responsibilities remain the same but we report to a different hierarchy. My title is now Business Unit Leader. The same staff works on Millcreek.

REPORT

Kearsarge Pump Station Modifications

History

The Millcreek Township Sewer Authority's Kearsarge pump station was initially constructed in 1958. In the early 80's it was recognized that flows into the pump station exceeded its capacity resulting in gravity overflows to Walnut Creek, the volumes of which were unknown. The station and force main were expanded with discharge into the City at Manor Drive on the west side of Erie in 1984.

Despite the 1984 upgrade, the Kearsarge Pump Station continued to have capacity problems. In 1992, the MTSA and MT entered into a Consent Order and Agreement (1992 COA) to address the capacity problems at the Kearsarge Pump Station and in other areas of the Millcreek sewer system. Also, at this time, the City of Erie was evaluating capacity problems that it was experiencing. At the time, it was determined that the problem with the solution at Kearsarge was that flows from Kearsarge could not be increased without exacerbating the City of Erie's capacity problems. As part of that 1992 COA, the MTSA submitted two alternative solutions to this problem: one involved constructing a new sewer line directly from the Millcreek system to the City of Erie WWTP; the other involved constructing a series of sewer system projects in conjunction with the City of Erie improvements that would increase the capacity that could be accepted by the City from Millcreek. Both alternatives were presented to the DEP, and both the MTSA and the DEP preferred the alternative of working with the City of Erie. The alternative of working with the City of Erie was the alternative selected.

Ultimately by 2000, all of the projects under the 1992 COA were completed, except the removal of the Kearsarge bypass. Unfortunately, despite spending millions of dollars and significantly increasing the capacity that could be accepted by the City, the capacity available for Kearsarge did not increase. Initially, the MTSA thought it could improve the capacity problem by performing I&I work. The DEP, however, rejected that effort and required the MTSA and MT to enter into the 2003 COA.

Mark Shaw, Esq.
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The 2003 COA required as a first step the completion of a special study report defining the anticipated flows and methods for handling those flows to allow the elimination of the overflow. That report (prepared by the writer) found the existing flows entering the City during major flow events were approximately equal to the limits found in the City's agreement with the MTSA and upon which the City designed their system upgrade. Thus, the additional flow rates required to be sent forward to the City to allow the overflow to be eliminated would create exceedances during storm or high flow events. Thus, it was concluded that overflow detention and feed back into the system was the necessary design to allow the overflow to be eliminated.

The conceptual design of the overflow was based on past flow and rainfall. I reviewed past flow records at the station during high flow periods when overflows had been recorded. I also reviewed rainfall data that was obtained from NOAA records of observations at the Erie Airport on those same dates. I related them to a storm frequency. In addition, observations of present day overflows were made at the station in attempts to confirm past data and those flows were related to rainfall data from up to four additional rainfall recording stations [Erie (2), Summit (1), and Millcreek (1)].

Since the PA DEP does not define a design storm or condition to be used in sizing facilities, just that overflows should be prevented, several conceptual storage volume designs representing different storm frequencies were presented with a recommended alternative storage volume which was ultimately accepted. This analysis is contained in the Special Study. The Department approved the Special Study on September 29, 2004.

However, just prior to the Department's approval of the Special Study, the Millcreek area was hit on consecutive weekends by the remnants of two different hurricanes. The largest of those storms (September 9th) had frequency of occurrence of 40 to 50 years. Due to the large volume of flows witnessed at the Kearsarge Station from these two storm events, the MTSA and MT reevaluated the design that was approved by the DEP. As a result, the MTSA and MT submitted an addendum to the Special Study that relied upon the new data, which recommended a much larger overflow retention facility. This addendum is entitled Act 537 Special Study Addendum.

This resulted in a design forward flow rate of 4,500 gpm, storage flow rate of 4,500 gpm, and a storage volume of 2.3 mg with a contingency to allow an increase in forward flow rates and storage flow rates if they become absolutely necessary to prevent sewer backup and flooding.

Design

The existing forward pumps will be replaced with pumps with a two pump design capacity of 4,500 gpm capacity.

The overflow retention tank design includes two 65 ft. high by 56 ft. diameter units described in the Authority's second addendum to the Special Study. The units combined are sized at 2.3 mg and are dimensioned to be placed on the available land near the pump station. (Remote location requires that

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pump station overload be anticipated where as near locations allow reaction to an actual overload.) A 4,500 gpm submersible storage pump station is to be constructed to transfer excess flows to the storage facility. One standby unit will be provided in each pump station. The system will be further modified to provide a new generator (old is standby), automatic transfer switch, new inlet power, a SCADA system (remote alarms, etc.), a new flow meter, and removal of the overflow.

The system will operate as follows: as flows enter the station and exceed system capacity, they will back up into the wet well until they reach the diversion sewer protected by a baffle to prevent entry of floatables; flows will be transported to the submersible pump station; the submersible pump station will be activated by floats (in the event they are not activated, alarms will alert personnel and the governor will disconnect to allow forward pump capacity to be increased); submersible pumps will transfer flows to the storage tanks (level will be monitored with alarms if capacity is approached).

Once flows return to normal, an automatic valve will open to allow tanks to drain. The valve will modulate to allow flows to be maintained at or below forward pump capacity (by immediately emptying, the tanks will be available in the event of an immediate repeat storm).

In my professional opinion, the overflow retention basin is adequately and properly designed to handle the overflow at the Kearsarge Station and to allow the MTSA and MT to remove the bypass.

Sewer System UpGrade

In addition to the overflow retention basin, the MTSA and MT has and is making improvements to the sewer system that is tributary to the Kearsarge Station. This additional work included the Zimmerly Relief Sewer, the Beaver Run/Peach Street Relief Sewer and backflow preventers.

The Zimmerly Relief Sewer was needed to alleviate localized sewer backups that occurred in that sewer line due to the flow in the line being over the capacity of the line. These sewer backups caused sewage to enter into people's basements. As a result, the Zimmerly manhole would be pumped to avoid flooding people's basements. The Zimmerly Relief Sewer was completed in the fall of 2004 and the Zimmerly manhole has not been pumped since then, and it is my professional opinion that the Zimmerly manhole will not need to be pumped due to lack of sewer capacity in the foreseeable future.

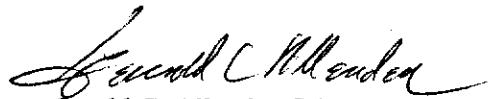
The Beaver Run/Peach Street Relief Sewer also is designed to help alleviate localized overflows in the area downstream of the relief sewer. Like Zimmerly, the existing Beaver Run sewer line is over capacity during peak flow events. As a result, there have been times that the manholes at Larchmont and Church had to be pumped to avoid backups of sewage into people's basements. The relief will divert flows from the Beaver Run Sewer relieving its overload condition. As a interim solution until the relief sewer can be constructed, the MTSA and MT have focused their I&I efforts in this area, and have implemented a procedure whereby flow in a Peach Street manhole will be diverted by pumps during storms to another section of the sewer system to reduce the surcharge at Larchmont and Church. There have not been any overflows from the manholes at Larchmont and Church since December,

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2004, and, in my profession opinion, the quantity of diverted waters should be sufficient to prevent the need to pump the manholes at Larchmont and Church in the foreseeable future.

It is my understanding that the MTSA and MT also have completed the installation of all needed backflow preventers. Ultimately, it was decided that even with the new overflow detention tanks, there remained some risk of basements becoming flooded. In my professional opinion, properly functioning backflow preventers eliminate that risk.

Very truly yours,



Gerald C. Allender, P.E.
Business Unit Leader

GCA:lb

MILLCREEK TOWNSHIP SEWER AUTHORITY**MINUTES OF SPECIAL MEETING OF OCTOBER 23, 2003**

The meeting was held at 3:30 PM on Thursday, October 23, 2003 at the Authority office. In attendance were:

Board Members:	Sue Busse	Leon Johnson
	Dave Seth	John DiPlacido
		Dave Zimmer
Advisors:	Solicitor Tim Sennett	
Staff:	Jan Agnello	Dave Wright

Not in attendance: Nanci Lorei, Board Member and Staff Members George Riedesel and Barry Baker.

I. KEARSARGE CONSENT ORDER AND AGREEMENT

Attorney Sennett presented Exhibit B to be attached to the DEP Consent Order and Agreement. Exhibit B indicated the properties along Edinboro Road, Moraine Drive and Rinderle Drive that are exempt from the connection limitations to be imposed. The Solicitor also clarified that the Authority has an obligation to complete this project, should the proposed developer not do so, by December 31, 2006.

Resolution 2003-08 was presented, authorizing the Manager and Solicitor to execute the Consent Order and Agreement. Resolution 2003-08 was adopted, upon motion by Dave Seth, and seconded by Dave Zimmer.

II. ARBUCKLE ROAD SANITARY SEWER INTERCEPTOR PROJECT

Mr. Wright reviewed the bid tabulation for the Arbuckle Road Sewer Project, indicating that Danylko Excavating was the low bidder at \$241,058.00. Authorization to award the contract to Danylko Excavating was approved, upon motion by John DiPlacido, and seconded by Leon Johnson.

The Solicitor was authorized to proceed with the condemnation of the Sublette/Kightlinger property easement, as provided for in Resolution 2003-02 and adopted on April 17, 2003. This was approved, upon motion by Dave Zimmer, and seconded by John DiPlacido.

III. WEST 20TH STREET SANITARY SEWER REVISIONS

Mr. Wright presented the Memo of 10/2/03 to the Board Members regarding the West 20th Street project and its affect on the South Shore I/I Abatement program. The Board Members expressed concern that the Airport Authority should be notified, as soon as possible, regarding our plans so they can plan for the possible impact this could have on their property.

Following the review of the Engineering proposals, and upon motion by Leon Johnson, and seconded by Dave Seth, the Authority accepted the proposal from Urban Engineers in the amount of \$12,925 for the revisions to the West 20th Street sanitary sewer.

The meeting adjourned at 4:10 PM.

George H. Riedesel
SECRETARY

MILLCREEK TOWNSHIP SEWER AUTHORITY**RESOLUTION 2003-08**

It is hereby RESOLVED by the Millcreek Township Sewer Authority that it has reviewed the Consent Order and Agreement between the Department of Environmental Protection, Millcreek Township and Millcreek Township Sewer Authority and upon recommendation of the Manager of the Millcreek Township Sewer Authority and Solicitor, does hereby approve the Consent Order and Agreement and authorizes the Manager and Solicitor to execute the Consent Order and Agreement.

This Resolution was adopted at a duly advertised special meeting of the Millcreek Township Sewer Authority at 3:30 p.m. on Thursday, October 23, 2003.

George H. Puedes
Secretary